Job Loss Analysis

ID No: 2000017 **Status:** Closed

Original Date: 01/Oct/2008
Last Review Date: 10/Nov/2009

Organization:

SBU: Global Manufacturing
BU: Global Mfg -Shared
Work Type: Technical Process Engineering
Title (Work Activity): Process Engineering Plant Upset
Site/Region:

Reviewers

Reviewers Name	Position	Date Approved
Michelle Johansen	Process Engineering Manager	11/10/09
Bob Vanatta	Process Engineering Manager	10/1/08
Brad Moore	Pascagoula PE core team	10/21/08
Raman Jhutti	TEMA PE core team	3/9/09
Lauren Allison/Audrey Atwell	Process Engineer	4/21/09

Development Team

Development Team Member Name	Primary Contact	Position
Jason Kolb		Lead Process Engineer
Luis Sujo		Process Engineer
Katherine Knight		Process Engineer

Job Steps

No	Job Steps	Potential Hazard	Critical Actions
1	Problem occurs during normal working hours and Operations/Division Management Team (DMT) requests urgent Process Engineering support.	1. Unable to find contact number for Process Engineer (PE) or back-up contact is not identified. 2 .Problem may not require engineering support causing lost engineering time.	1. Keep office phone lists up to date. Keep outlook calendars up to date with vacations and training. Provide additional contact numbers and back up coverage if PE is expected to be out of office. Communicate expectation that PE's answer phone or pager calls. 2. If PE support is questionable, consult the Lead PE for guidance.

2	Problem occurs on nights, weekend, or holiday and Operations/DMT requests urgent Process Engineering support.	1. Unable to make voice to voice contact with the PE. 2. PE comes in to work, without knowing anything about the problem or comes in for a problem that could have been solved from home. 3. Problem may not require engineering support causing lost engineering time.	1.Keep off hours on-call lists up to date. Provide additional contact numbers to Lead PE and Divisions Management Team (DMT). Communicate expectation that PE's answer phone or pager calls during off-hours. 2. PE to have NetGil access to quickly check process variables from home before coming in. May want to keep a copy of the Upset Support folder at home. 3. If PE support is questionable, consult the Lead PE for guidance.
3	PE prepares to leave the office to come to the control room.	1. PE may rush and forget important supplies 2. PE has not gone through a plant upset before and does not know what information is important, or engineer is on vacation and other engineer is covering. 3. An emergency call to the BIN leader is made to get information on what to do. 4. PE may miss meetings or routine duties	1. Take some time to gather computer, P&ID's procedures, notes, PPE, etc. 2. While the plant is running well put together an upset support binder, containing P&ID's, SD procedures, Best Practices, contact list, key variables. Set up a monitoring spreadsheet or Processbook that trends key variables needed to monitor a SD (TI's for MPT monitoring, reactor DP's to check for coking). Keep this in a place that is accessible for any engineer covering the plant to pick up and use. 3. While the plant is running well consult the BIN leader and document the best practices for plant upset response. Review emergency procedures against best practices and ensure they are up to date. 4. Request Lead PE find coverage for meetings and routine duties.

4	PE prepares to leave home to come to the control room.	1. PE may rush and forget important supplies 2. Family and friends may be concerned about location of engineer	1. Follow the normal routine for coming to work, don't speed or forget your badge. Stop by the office before going to the control room if needed to gather Upset Support Folder, computer, PPE and other supplies. 2. Take time to make phone calls to people who may be concerned when you are working long hours or when you are meant to be somewhere else.
5	PE arrives at the control room and requests an update on the status and urgency of the problem	1. PE may go directly into the field to assess the situation, subjecting PE to risk 2. Consol Operator (CO) is under very busy and cannot update PE 3. PE may get in the way of critical operations. 4. PE receives a call in the consol area and is asked to leave the control room.	1. During a plant upset/emergency never go into the field before checking in with the operators the control room. 2. Start visit by checking in with the Shift Supervisor (SS) or Division Management Team (DMT) member that may be present. 3. Do not speak to CO when they are extremely busy. Use judgment on when to speak to them. e.g. stay away from the control board until there is a lull in work and ask if they are in a position where they can talk to you briefly. If someone is leading the troubleshooting effort in the control room, requests for action can be directed through them. 4. Follow no cell phone rules in consol area. If not a rule, take phone calls outside the consol area to avoid additional distractions. Set phone to vibrate and leave console area to take calls.

6	PE goes into the field to assess the situation	1. During an upset/plant emergency there are many more risks than usual 2. PE hinders operations of maintenance activities 3. PE is unfamiliar with the plant	1. Only go into the field if absolutely necessary and only when troubleshooting activities are aided by working in the plant. Limit your exposure; don't ride your bike through other plants to get to the control room, use the main road. If entering the plant check with operators first regarding specific hazards and avoid those areas. 2. Avoid entering areas where high risk work activities are taking place, just to observe. 3. If unfamiliar with the plant, like when you are covering for another engineer, don't go outside the control room alone. Ask an operator or a more experienced engineer to act as an escort.

7	PE reviews data and provides input to Operations	1. PE doesn't understand the problem or what they can do to help. 2. PE gets in the way of the Consol Operator (CO) when providing input 3. PE uses consol screens or computer to pull up trends and distracts CO. 4. PE reviews the CO's copy of the procedure and hinders the CO 5. PE misses a critical step in the procedure that is done incorrectly. 6. PE may observe plant upset while watching the control board (run away or loss of flow through a furnace) and aggressively try to get involved to bring attention to the problem.	1. Ask the Shift Supervisor or DMT member directly what they expect of the PE. If necessary seek additional support e.g call Lead PE, senior PE support, local PE experts, BIN leaders and BIN website. Get materials or design engineers involved early for mechanical related issues like MPT. 2. Do not speak to CO when they are extremely busy. Use judgment on when to speak to them. If someone is leading the troubleshooting effort in the control room, requests for action can be directed through them. 3. Always ask before using their screens in this situation, try to use you own computer instead 4. Print out your own copy of the procedure. 5. Follow along as the operator goes through the steps in the procedure. Look ahead to anticipate problems. 6. Communicate concerns immediately to control operator in a clear and calm manner. Seek assistance from the Head Operator or Shift Supervisor to bring attention to the problem. Provide clear guidance on how to overcome problem if possible.

8	Plant Upset/Emergency persists for more than 12 hours	1. PE remains at work over 12 hours with no relief planned 2. Normal PE routine duties are missed 3. DMT (Division Management Team) questions what the PE's are doing to assist in the plant and bring closure to the upset.	1. As soon as possible contact the Lead PE to determine the coverage needs. If 24hr coverage is needed, send people home early in the day so they can come back to cover the night shift. 2. PE to communicate with Lead PE to determine priority of routine duties and secure backup support 3. Send out frequent updates on the plant status to the DMT. Check with them in person when time allows.
9	Document upset and recommendations	1. Communication is unclear, leading to more questions or poor decisions. 2. Lost time due to engineers repeating work 3. Failure to understand the root cause of the upset may lead to the upset occurring again with a potential for a bigger loss.	1. Write summary of upset and recommendations. Distribute report to stakeholders 2. Store documents and emails in division network drive. Use GRKM and GDW as applicable. 3. Determine if a Loss Investigation should be conducted to determine the root cause of the upset and prevent it from occurring again.